

## FOREST DISEASE CONDITIONS REPORT FOR 1987

### HARDWOOD DISEASES

**Anthracnose of Hardwoods.** Incidence of anthracnose disease of sycamore was light to moderate statewide. A few individual trees at various locations suffered moderate to heavy defoliation. Incidence was heaviest along the major river drainages. This represents a slight increase in disease incidence over the previous four years.

**Dogwood Anthracnose (Discula sp.)** is presently known to occur at four locations in West Virginia. Tree mortality has been occurring for several years at the Jefferson County site while branch tip mortality has begun to occur at two sites in Greenbrier County.

**Beech Bark Disease Complex** Nectria galligena, Nectria coccinea, and Cryptococcus fagisuga. Beech mortality continues to increase in the 70,000 acres of National Forest land where the disease was initially reported. Numerous pockets of mortality have been observed along Middle Mountain in Pocahontas and Randolph Counties.

**Bull's eye leafspot (Cristulariella pyramidalis).** Bulls eye leaf spot incidence was light this year statewide on maples and other hardwoods. This marked a slight decrease in disease incidence over that reported in 1985.

**Dutch Elm Disease (Ceratocystis ulmi).** Disease incidence throughout the state was high again this year. This is probably the single most important forest and shade tree problem in West Virginia.

**Elm Phloem Necrosis Elm Yellows ML0.** Elms displaying the classical symptoms of phloem necrosis were observed again during 1987 near Charleston, WV. Only a few diseased roadside trees were observed at the infections center.

**Fireblight.** This bacterial disease was widespread and severe on crabapples and other members of the Rosaceae. This marked the second straight year of high fireblight incidence in the southern and western portion of the state.

**Hypoxylon Canker (Hypoxylon sp.).** This group of opportunistic fungi is among the first colonizers of dead and dying oak timber. With the increase in dead and dying oak timber from oak decline, there appears to be an increase in this pathogen.

**Oak Decline.** Oak decline induced by drought and or insect defoliation is becoming a more serious problem. Portions of the state have experienced drought for five consecutive summers with the drought of 1987 being one of the most severe on record.

Generally one can find the two-lined chestnut borer, (Agilus bilineatus); the root rot fungus, Amillaria mellea and/or decay causing fungi such as Hypoxylon sp. associated with the dead and dying trees. Oak decline has been reported or observed throughout much of the state. Fortunately, incidence has been light in most areas, except where defoliation has occurred.

**Venturia shoot blight (Venturia tremulae).** This disease was reported in a small planting of big tooth in Hardy County. Although unsightly, little damage resulted.

## CONIFER DISEASES

**Atropellis Canker (Atropellis tingens).** This disease continues to cause branch tip mortality in a number of Scotch pine Christmas tree plantings around the state. During 1987, this disease was detected for the first time in Berkeley County. The disease was quite prevalent on the Scotch pines at the planting.

**Bifusella Needlecast (Bifusella linearis).** The Bifusella needlecast fungus was observed fruiting on the needles of white pine trees growing in the understory of mixed hardwood and conifer forest stands in Mercer and Summers Counties. This disease appeared to be much more prevalent than in past years. Little or no damage is expected as only 2nd and 3rd year needles were involved.

**Cytospora Canker (Cytospora kunzei).** Cytospora canker is a fairly common disease occurring in nearly every county of the state. This disease is most commonly observed on Norway and blue spruce. However, one can readily find Cytospora infections in our native red spruce stands. Generally the older, more mature trees appear to be more susceptible to infection.

**Diplodia Tip Blight (Diplodia pinea).** This disease continues to be a problem on Austrian pine and mature Scotch pine. In recent years, this disease problem has been associated with the decline and death of pitch pine at various sites in Pocahontas County.

**Lophodermium Needlecast (Lophodermium seditiosum).** Until 1987, Lophodermium needlecast hadn't caused serious needlecast problems since the early 1970's. During 1987, there was a definite increase in disease incidence. By the late winter and early spring of 1987, a number of Christmas tree growers from around the state reported that their Scotch pine trees were beginning to brown out. The problem was readily identified as Lophodermium needlecast. Ten Christmas tree growers in the state reported moderate to heavy Lophodermium infection on a total of 200 acres of Scotch pine trees.

An undetermined species of Lophodermium was found causing partial defoliation in a planting of Loblolly x pitch hybrid pines. We definitely know that the causal organism was not Lophodermium seditiosum.

**Meloderma Needlecast (Meloderma dezmaizierii).** This needlecast disease of white pine trees was observed in a Braxton County Christmas tree plantation fruiting on the needles of 50 white pine trees. In addition, the same organism was observed at Neola in Greenbrier County on the needles of white pine trees in the forest understory.

**Naemacyclus needlecast (Naemacyclus minor = Cyclaneusma minor).** Naemacyclus needlecast incidence was very low during 1986. Although this pathogen can be found on the needles of nearly any Scotch pine tree, it rarely causes enough damage to warrant control in West Virginia.

**Pine root decline (Verticicladiella procera).** This continues to be a problem in many of our white pine plantings.

There has been a definite decrease in disease incidence in several stands where the disease was quite common. In several other stands there has been a definite increase in disease incidence.

**Pinewood nematode (Bursaphelenchus xylophilus).** This pathogen has now been detected in dying conifers from 15 West Virginia counties. During 1987, we isolated this nematode from several dying Scotch pine Christmas trees in Mason and Berkeley Counties. These are two new county records.

**Pine Needle Rust (Coleosporium sp.).** Nearly every seedling in a young, 10 acre Ritchie County planting of loblolly pine was infected with the pine needle rust fungus. Recommendations were provided to mow in and around the stand to control the golden rod plants. Some growth loss is expected.

**Rhizosphaera Needlecast (Rhizosphaera kalkhoffii).** This disease has become much more common on Norway and Colorado blue spruce in West Virginia during the past 10 years. Although incidence has increased, we generally only observe light to moderate damage to individual trees or plantings of spruce trees.

## PROJECTS

**White Pine Blister Rust.** Surveys were conducted on 9,538 acres of land. Suppression work was completed on 632 acres, with 985 Ribes plants destroyed. the blister rust survey is conducted on the eastern tier of counties along the Virginia border. This marks the final year of the control program. A spot check survey will be initiated during the winter 1987-88 to determine if

disease incidence begins to take a dramatic increase after we discontinue eradication.

**Oak Wilt Detection.** Due to budgetary constraints oak wilt surveillance flights were conducted only over the 21 high oak wilt incidence quadrangles in the southwestern section of West Virginia. One hundred thirty three oak wilt diseased trees were spotted in these southwestern counties. Only one coverage flight was conducted. Disease incidence continued to fluctuate from year to year and quadrangle to quadrangle.